APPLICATION FOR

UNITED STATES LETTERS PATENT

I, Paul Murrell, a citizen of United States, residing at 1650 Witt Hill Drive, Spring Hill, TN 37174; have invented a new and useful method of constructing "High Tone Pentatonic Stringed Instruments."

BACKGROUND OF THE INVENTION

The present invention relates generally to constructing stringed instruments. More particularly, this invention pertains to constructing stringed instruments, such as guitars, in a manner that varies the string size selections and the order of the placements of the strings to produce new and novel sounds while playing the instrument in a conventional method.

As shown in FIG 1, there is illustrated a conventional stringed instrument 10, illustrated in the preferred embodiment as a guitar 10, for purposes of this description. Stringed instruments 10 such as guitars are constructed generally of a body section 12, a narrow elongated fingerboard 14, a head 16, supporting elements commonly referred to as a bridge 18 and a nut 20, and strings 15. The strings 15 include six strings tuned in order to define a 'low E' string 22, a 'low A' string 24, a 'd' string 26, a 'g' string 28, a 'high b' string 30, and a 'high e' string 32 respectively.

The strings 15 are attached in size-sequential order to the stringed instrument 10. The tuned strings are constructed to produce individual notes and the names correspond to the tuned notes, i.e. 'low E' string 22 means a string tuned to the 'low E' note and likewise for the 'low A' string 24, 'd' string 26, 'g' string 28, 'high b' string 30, and

'high e' string 32 which is constructed with the least or narrowest diameter. For a typical setup, the 'low E' string 22 with a diameter of 0.046 inches is placed in the sixth position 34, the 'low A' string 24 with a diameter of 0.036 inches is placed in the fifth position 36, the 'd' string 26 with a diameter of 0.026 inches is placed in the fourth position 38, the 'g' string 28 with a diameter of 0.017 inches is placed in the third position 40, the 'high b' string 30 with a diameter of 0.013 inches is placed in the second position 42, and the 'high e' string 32 with a diameter of 0.010 inches is placed in the first position 44. These are approximate dimensions that may vary depending upon the string design and other well known factors in the prior art. Thus, an example of the typical variations for the 'low E' string 22, are string diameters which vary from 0.040 inches to 0.052 inches.

The strings 15 are maintained in proper order and spacing along the stringed instrument 10 by the supporting elements. The first supporting element positions one end of the strings 15 and is commonly referred to as a nut 20 that is affixed between the fingerboard 14 and head 16. The second supporting element supports the other end of the strings 15 and is commonly referred to as a bridge 18. As an example of a string mounting arrangement for the 'low E', string 22 the second end of the 'low E', string 22 is placed in the sixth position 34 and the first end of the string 22 is attached to its tuning key 17.

In this manner the following music intervals are produced: perfect fourth intervals between 'low E' string 22 and 'low A' string 24, between 'low A' string 24 and 'd' string 26, and between 'd' string 26 and 'g' string 28: a major third interval between 'g' string 28 and 'high b' string 30; and a perfect fourth interval between 'high b' string 30 and 'high e' 32. As a result of the sequence with which the strings 15 are attached to the

instrument 10, the instrument 10 produces a unique and distinctive sound. This sound can be varied to some degree by tuning individual strings 15. However, the player soon learns that the instrument 10 is limited in its ability to produce unusual melodies and harmonies during conventional playing. A player may attempt to produce unique sounds by varying the sequence of striking the strings 15 in order to produce new music intervals. However, this procedure ultimately may produce a haphazard and undesirable effect.

As illustrated in the background art, efforts are continuously being made in an attempt to develop devices that improve the performance of stringed instruments, such as guitars and the like. No prior effort, however, provides the benefits attendant with the present invention. As such, it may be appreciated that there is a continuing need to produce novel and unusual sounds from stringed instruments in a manner that is similar to that of playing a conventional stringed instrument. In these respects, the present version of the invention substantially departs from the conventional concepts and designs of the prior art, and in so doing provides an apparatus that substantially fulfills this need. Additionally, the prior patents and commercial techniques do not suggest the present inventive combination of component elements arranged and configured as disclosed herein. The present invention achieves its intended purposes, objects and advantages through a new, useful and unobvious combination of method steps and component elements with the use of a minimum number of functioning parts at a reasonable cost to manufacture, and by employing only readily available materials.

What is needed then to overcome the said limitations of conventional stringed instruments is the provision of stringed instruments that are fitted with varying string size

selections and string position placements. The present invention meets the requirements of such instruments while also offering an instrument with an open stringed range much larger than the open string range of a conventional (classical) guitar.

SUMMARY OF THE INVENTION

The present version of the invention, which will be described in greater detail hereinafter, relates to the field of constructing stringed instruments. More specifically, this version of the invention is concerned with constructing stringed instruments such as guitars in a manner that varies the order of the placement of the strings in order to produce new and novel sounds while playing the instrument in a conventional method. The present invention overcomes all of the shortcomings of the prior art and provides some additional novel aspects that will be described in detail hereinafter.

Described briefly, according to a typical embodiment, the invention presents a method of construction for producing unusual harmonies and melodies from conventional stringed instruments such as guitars by varying the sequence of the order of the strings that are attached to the instrument. Conventional guitars employ six strings the first string is tuned to 'high e', the second string is tuned to 'high b', the third string is tuned to 'g,' the fourth string is tuned to 'd,' the fifth string is tuned to 'low A,' and the sixth string is tuned to 'low E.' Each string is attached at one end to a tuning mechanism at the head of said instrument and attached at the other end to the body of the instrument approximate to a bridge. The bridge and a nut maintain the strings in the proper sequence and spacing relative to each other and at the optimum distance above the body and fingerboard of the instrument. The strings also proceed sequentially with a string of a largest diameter tuned 'low E,' to a string of least diameter tuned 'high e'.

The method of constructing the present invention consists of removing all the strings from a classical (conventional) guitar: the sixth position is strung with the first string, the fifth position is strung with a replacement string smaller than the first string, the fourth position is strung with a replacement string slightly larger than the first string, the third position is strung with a replacement string slightly smaller than the first string, the second position is strung with a replacement string smaller than the first string and the first position is strung with the fourth string. The revised tuning sequence of the strings has the actual tuning nomenclature of 'high e,' 'extra high a,' 'high d,' 'high g,' 'extra high b,' and 'e.'

Another version of the present invention consists of replacing the 'e' string of the first position with a string the same size and tuning as the sixth position 'high e' string. This change results in a brighter sounding stringed instrument.

A third version of the invention consists of replacing the strings of the preferred embodiment with strings that are to be tuned one octave lower than the strings of the preferred embodiment.

For playing purposes the instrument is played as if the varying string size selections and string order placements had not been implemented. The stringed instrument of the instant invention is thus played in the normal technique, i.e. conventional fingering while allowing the player to elicit altered pitch levels from the strings. This revised positioning of the strings allows the player to produce heretofore unattainable melodies, harmonies and varied rhythmic accents without learning new fingering positions or playing techniques.

The present invention, therefore, is distinguished from the prior art in its particular combination of its structures for the functions specified. Accordingly it is an object of this version of the invention to provide a low-cost, easy-to-manufacture and easy-to-market method of constructing revised position stringed instruments.

A further object of this version of the invention is to provide an easy-to-use and versatile method of constructing stringed instruments. A significant object of the invention is to provide a method of constructing stringed instruments that can be adapted to a variety of instruments that employ a sequenced arrangement of tuned strings.

A final but very significant object of the invention is to provide a method of construction of stringed instruments that have varying string size selections and string order placements to yield new and unusual harmonies, melodies and rhythmic accents while playing the instrument in a conventional manner.

The foregoing and other objects, features and advantages of the invention will become more fully understood from the following description of the preferred embodiment of the invention as illustrated in the accompanying drawings in which like reference characters refer to the same parts throughout different views. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG.1 is a perspective view of a conventional stringed guitar.

FIG. 2 is a perspective view of a stringed guitar constructed in accordance with the present version of the invention.

FIG. 3 is a schematic sheet music diagram showing the tuning sequence of the strings on the conventional guitar and the tuning sequence of the strings on the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG.2 therein illustrated is the alternate stringed guitar 11 of the instant invention. This invention teaches a tuned string arrangement for a stringed instrument or guitar with the tuned string arrangement utilizing a tuning sequence of 'high e', 'extra high a,' 'high d,' 'high g,' 'extra high b,' and 'e.'

In contrast to the said typical conventional guitar string size set up a typical guitar string size set up for the present invention consists of the 'high e' string 32 with a diameter of 0.010 inches placed in the sixth position 34, the 'extra high a' string 25 with a diameter of 0.008 inches placed in the fifth position 36, the 'high d' string 27 with a diameter of 0.011 inches placed in the fourth position 38, the 'high g' string 29 with a diameter of 0.009 inches placed in the third position 40, the 'extra high b' string 31 with a diameter of 0.007 inches placed in the second position 42 and the 'e' string 33 with a diameter of 0.026 inches placed in the first position 44.

[If the 'extra high b' string breaks too easily the guitarist should seek a more resilient replacement string or tune each string of the instrument a whole tone lower.]

The intervals of the open strings of the present invention are as follows: a perfect fourth interval between the string of the sixth position 34 tuned to 'high e' and the string of the fifth position 36 tuned to 'extra high a' and a perfect fifth interval between the string of the fifth position 36 tuned to 'extra high a' and the string of the fourth position 38 tuned to 'high d,' and a perfect fourth interval between the string of the fourth position 38 tuned to 'high d' and the string of the third position 40 tuned to 'high g,' and a major

third interval between the string of the third position 40 tuned to 'high g' and the string of the second position 42 tuned to 'extra high b,' and a octave and a perfect fifth interval between the string of the second position 42 tuned to 'extra high b' and the string of the first position 44 tuned to 'e.'

In this manner the invention presents a string size order rearrangement for non-sequential string size selections and placements which presents and allows a different guitar tuning than may be performed by typical alternate guitar tunings that utilize strings placed in the same locations as the strings of a conventional guitar. Thus the present invention provides for the replacement or repositioning of all the guitar strings.

In addition, the revised instrument has an open string range of only a major sixth interval when the strings of the sixth, fifth, fourth, third, and second positions are sounded, allowing intense, close harmonies to be easily realized -- harmonies that would be physically impossible on a conventional guitar.

It will be appreciated by those skilled in the art that the present invention is not an alternate guitar tuning but is an improvement in string size selections and string position placements. Each string is tuned to the note name common to the string position in which it has been placed. It should be noted that the tuning of the present invention may be altered at the discretion of the musician playing it.

The instrument's uniqueness can be experienced by sounding in order the open fourth string, the open sixth string, the open third string, the open fifth string and the open second string -- enabling the listener to hear the entire G Major Pentatonic Scale with the fifth tone of the scale followed by the sixth tone of the scale, followed by the first tone of the scale, followed by the second tone of the scale, followed by the third tone of the scale.

Each note of the scale has a higher pitch level than the note preceding it and is played without being fretted.

SOME ADVANTAGES OF THE PRESENT INVENTION

1) The player does not need to learn new techniques – fingering and chord shapes -- to produce many novel sounds. The present invention is played exactly like the conventional (classical) guitar.

2) Although the pitch levels of many of the notes of the instrument have been changed the note names of all the frets and open strings remain unchanged.

3) The present invention and a conventional guitar can be played simultaneously by two guitarists using the same fingerings, chord shapes and rhythms to produce previously unheard, ear catching sound effects.

4) The guitarist can easily learn "new guitar" sounds by reading music in the usual manner and listening to the altered pitch levels of the notes of the present invention.

5) Its open string range is smaller than the open string range of the conventional guitar - allowing the listener to experience its easily realized intense, close harmonies.

6) It allows the listener to hear its open 'extra high a,' open 'high d,' open 'high g,' and open 'extra high b.' These notes are not available on the conventional guitar.